

CLAIMS

I Claim:

1. A method for ablating or irradiating a tumor in a body while protecting a nearby structure from the effects of the ablation, comprising the steps of:

inserting an ablation device to a location in the body proximate the tumor, the ablation device having at least one ablation source;

interposing an ablation shield between the tumor and the nearby structure; and then activating the ablation source to ablate the tumor while the nearby structure is shielded by the ablation shield.

2. The method of claim 1, further comprising the steps of:

imaging at least a region including and surrounding the tumor; and guiding the ablation device toward the tumor based on the imaging.

3. The method of claim 1, wherein at least one ablation source is a plurality of wires, the wires being activated to emit radio-frequency current from their tips to create heat to ablate the tumor.

4. The method of claim 1, wherein the ablation shield is interposed percutaneously.

5. The method of claim 1, further comprising the steps of:

imaging at least a region including and surrounding the tumor and the nearby structure; and guiding the ablation shield to a position between the tumor and the nearby structure based on the imaging.

6. The method of claim 1, further comprising the steps of:

imaging at least a region including and surrounding the tumor and the nearby structure; guiding the ablation device toward the tumor based on the imaging; and guiding the ablation shield to a position between the tumor and the nearby structure based on the imaging.

7. The method of claim 1, wherein the ablation shield is a balloon.

8. The method of claim 7, further comprising the step of inflating the balloon with a fluid after the balloon is interposed between the tumor and the nearby structure and prior to activation of the at least one ablation source.

9. The method of claim 8, further comprising the step of selecting the fluid to inflate the balloon from a group consisting of air, carbon dioxide and deionized water.

10. The method of claim 8, further comprising the step of selecting the fluid based on the type of ablation source.

11. The method of claim 1, further comprising the step of constructing the ablation shield to increase a distance between the tumor and the nearby structure when interposed therebetween.

12. The method of claim 1, further comprising the step of constructing the ablation shield from a material which serves as a shielding material to counteract the effects of the at least one ablation source.

13. The method of claim 1, wherein the ablation shield is a fan retractor having an expandable fan portion folded upon interposition of the fan retractor between the tumor and the nearby

structure, further comprising the step of expanding the fan portion after the fan retractor is interposed between the tumor and the nearby structure and prior to activation of the at least one ablation source.

14. The method of claim 13, further comprising the step of selecting the orientation of the fan retractor such that the fan portion expands either to push the nearby structure away from the tumor or to cause a substantial part of the fan portion to be present between the tumor and the nearby structure.

15. The method of claim 13, wherein the fan portion expands to causes a substantial part of the fan portion to be present between the tumor and the nearby structure, further comprising the step of selecting the material of the fan portion to counteract the effects of the at least one ablation source.

16. A method for treating a tumor requiring multiple, sequential treatment, comprising the steps of:

performing a first treatment on the tumor;
marking the area of the tumor treated during the first treatment; and
performing at least one subsequent treatment on the tumor based the marked area of the tumor.

17. The method of claim 16, wherein the treatments performed on the tumor are radiofrequency ablations, the step of marking the area of the tumor comprising the step of placing a radio-opaque material at a location at ends of wires of a needle probe used in the radiofrequency ablations.

18. A method for differentiating between instruments used in surgery, comprising the steps of:

providing a plurality of instruments used for surgery with a different signature; and
enabling visibility of the signatures during imaging performed during the surgery.

19. The method of claim 18, further comprising the step of incorporating each instrument with the same signature in multiple signature types such that the same signature is visible for imaging for multiple modalities.

20. A method for biopsying an internal portion of the body, comprising the steps of:
inserting a biopsy needle into the body;
cutting the internal portion of the body with the biopsy needle;
positioning a tip of the biopsy needle near to the biopsy site;
grounding the body; and
activating an electrical source to apply electricity to at least a tip of the biopsy needle such that the biopsy site is cauterized.